Pacific Communications Side Meeting, July 7-8, 2006
Held at the Secretariat for the Pacific Community Conference Centre

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Purpose of this technical meeting was to follow-up on the issues and recommendations from the Pacific Communications Meeting held in conjunction with the 10th SPREP RMSD meeting in Niue, in April, 2005, as well as review a variety of communications technical issues supporting climate and meteorological programs in the Pacific Islands.

1. Update on RANET activities in the Pacific

a) Reports from the Met Service Directors

The meeting participants were hoping that one of the Meteorological Service Directors from Niue, Vanuatu, FSM. Tuvalu, or Kiribati would be able to participate in the Communications side meeting, but none were able to come early for the side side meeting. It was agreed after some discussion that the lack of timely status reports received about RANET demonstration sites has impacted upon the quality of overseas support to sustain operational RANET sites.

Recommendation 1.1 Need to identify adequate local technical support for RANET projects within-country to relieve the limited availability of overseas RANET technical resource people . Some of this will be addressed through training workshops already scheduled for 2007.

Note: Schedule side session with these RMSDs one a case-by-case basis to address specific technical issues.

Recommendation 1.2 The participants request the 11th SPREP RMSD endorse a proposal to establish weekly checklists for equipment/network status reports and forward these reports electronically to the Regional Technical Support Center in Paraparaumu, New Zealand. Also recommended is that a training workshop be provided for the RTSC staff on Pacific Island meteorological systems, such as EMWIN, RANET, HF-Digital e-mail, AWSs, etc.

2. Development of RANET Technical and Human Resources

a) Use of Pacific RANET technical resources to support RANET programs for the African and the Indian Ocean Regions.

Recommendation 2.1 Leverage PI-GCOS Resources to Help RANET Training Activities outside of the Pacific Basin.

Recommendation 2.2 Investigate Expanded RANET Cooperation Opportunities in East Asia, such as Sid Thurston – currently assigned to the US Embassy in Tokyo, Japan, and Orestes Anastasia – USAID Office in Bangkok, Thailand.

3. Status of HF Digital Communications Networks in the Pacific and Elsewhere

Recommendation 3.1 Met Service Directors need to go to their countries to start looking for additional resources for expanded HF digital networks (e.g. the Finland SIDS Proposal, etc.). Resources should insure that there is sustainability to the investments that will be coming to the Pacific, and demonstrate benefits to their NMHS role and responsibility.

Note: BOM resources for RANET pilot expansion is nearly complete.

Recommendation 3.2 Need RMSDs to raise the priority to identify resources to provide a regional basic ET/IT equipment maintenance training course(s). Benefit: Establish a cadre of trained Pacific Island maintenance technicians.

Recommendation 3.3 Establish an HF Digital E-mail network for the north Pacific stations, and integrate into the south Pacific network. BOM and NOAA/NWS to collaborate.

4) Status and Plans for the LRIT Upgrade Project – WMO

Funds have been transferred to WMO from the US VCP awaiting WMO to implement the LRIT Upgrade Project for the Pacific Islands.

Recommendation 4.1 Have a side session with SPREP and WMO at the 11th SPREP RMSD Meeting to discuss implementation plans for the LRIT Upgrade Project for the Pacific Islands.

5) EMWIN Status and Upgrade plans for the Pacific

During the first Pacific-wide TsunamiEexercise (Pacific Wave 2006) held May 16-17, 2006, some problems were identified with the EMWIN transmission on GOES-West. During the Tsunami exercise, the software that displays the tsunami warnings locked up the Pacific module on the EMWIN systems in the Pacific Islands. See description in Appendix II

Recommendation 5.1: Place an EMWIN GOES downlink at the Brisbane Tropical Cyclone Centre.

Note: This will provide the BOM with a redundant EMWIN feed for the Worldspace Asiastar RANET broadcast in the western Pacific and Indian Ocean regions.

Recommendation 5.2: Endorse the request to identify a Visual Basic programmer to upgrade the Pacific Display Module.

Recommendation 5.3: Investigate better ways of storing EMWIN data to prolong the life of a PC hard drive. Consider filtering the data stream before writing to the hard drive.

Recommendation 5.4: Need to consider a backup uplink satellite in case the Worldspace Asia Star satellite fails. Need to know where is the new WS spare satellite.

Recommendation 5.5: Consider a VHF rebroadcast for local line of site EMWIN users for new EMWIN sites close to the NDMO, NMHS offices, or schools, fire departments, etc.

Note: This should be considered for the request for new EMWIN sites in American Samoa.

Recommendation 5.6: Adequately scope resources for upgrade of EMWIN spare parts, and in-country training workshops to insure sustainability of deployed EMWIN sites.

Note: There is a major problem with getting adequate supplies for current EMWIN receiving equipment. The equipment we prefer is not now available, and is particularly necessary because of the upcoming EMWIN upgrades.

Recommendation 5.7: Increase Pacific Island NMHS originated products onto the EMWIN datastream and onto their local web sites.

6) Tsunami Communications/Early Warning Systems in the Pacific Islands

Recommendation 6.1 Request the Bureau of Meteorology of Australia to circulate Communications Technical Plans for upgrades to the Pacific Island Sea Level Monitoring network.

Note: This activity will be on the fast track within the next year with high level regional engagement.

Recommendation 6.2 Review the results of the Pacific Wave 06 Exercise and informally discuss their relationships with the National Tsunami Warning focal points, if this responsibility does not reside within the National Meteorological Service.

Note: RMSDs will be provided a copy of the current PTWS National Tsunami Warning Focal Point List and should provide corrections to Ed Young, who will forward them to the International Tsunami Information Centre in Honolulu, Hawaii..

7) Long Term Planning for Pacific Island Communications that Factor in the Potential for Upgraded Communications from the Finland SIDS Project

Recommendation 7.1: Establish a Pacific-wide Intranet.

Recommendation 7.2 Establish internal voice capable and two-way Messaging capability.

Note: This would be a private network among the appropriate Pacific Island agencies, which would expand two-way inter-country coordination of meteorological and tsunami warnings.

8) Need for a Communications Development Expert Meeting

Recommendation 8.1 Endorse the Proposal for a Communications Development Expert Meeting as documented in Appendix I.

Note: This will provide a well coordinated technical report for endorsement by the SPREP RMSDs for future collaborative communications projects in the Pacific Islands.

9) Leadership/Broadening the RANET-Pacific Development Communications Structure/Linkage to the other RANET Regions (Africa)/Partnerships

Recommendation 9.1 Endorse the incorporation of a Pacific Communications Expert Working Group under the auspices of the PI-GCOS Steering Committee. Such a working group would have responsibilities for communications issues that include, but are not limited to climate. This group would have a broader mission to address multi-hazard early warning system subject areas, e.g. tsunami warning system, etc. It is envisioned that the existing ad-hoc RANET-Pacific Steering Committee would be that Working Group.

Recommendation 9.2 Endorse expanding the mission of the PI-GCOS Technical Support Project (TSP) to address telecommunications issues, as well as in providing training and technical support within the Pacific, and in coordinating with other regions (e.g. work with African GCOS-TSP, etc.).

10) Status of GTS/RMTN links in the Region

Recommendation 10.1 METEO France work with Melbourne to upgrade the Noumea-Melbourne link from 9.6 kbps to 64kbps.

Background: METEO-France-New Caledonia shared their government's plans beginning in 2008 to connect with higher speed Internet service through an undersea fiber cable network with Australia. Presently, METEO France New Caledonia has a 128 kbps Frame Relay link with Toulouse, France, which prevents connection to the METEO-France MPLS world network. For meteorological instrument, METEO France-New Caledonia reported that a new LRIT system was installed in Wallis and Futuna.

Recommendation 10.2 Clarify with METEO France regarding tsunami contact/responsibility for Wallis and Futuna.

11) Lessons Learned from the Tonga May 3rd Earthquake and the Pacific Wave 06 Tsunami Exercise

There was a discussion of the provision of early notification of tsunami warning center bulletins to countries via the RANET Tsunami SMS messaging system, which raised a number of questions:

a) Is the SMS system official?
b) How do National Disaster Managers know about this early notification service, and how doe they subscribe to the service?
c) Should we develop a one page brochure on what SMS notification is, and how to subscribe to it?
d) Is there a need for greater concentrated efforts to improve coordination among first responder agencies (e.g. Vanuatu)?

Recommendation 11.1 Seek clarification from Kelly Sponberg on the current status of the RANET SMS Notification Project

Questions arose from the Tonga May 3, 2006 earthquake regarding power/backup power issues at NDMO and NMHS in earthquake prone regions. There seem to be serious and unresolved issues to be addressed to improve the warning/readiness/notification process, especially after severe earthquakes.

12) DCP Platform Channel Assignments for Pacific Region Applications (e.g. Tsunami/Met/Climate)

Recommendation 12.1 Endorse working through the US-New Zealand Climate Change Partnership and US-Australian Climate Action Partnership Bilateral Agreements to secure additional DCP channel assignments for Pacific Island Meteorological Services.

Note: Investigate obtaining a Pacific DCP channel for Pacific Applications for Tsunami and Automatic Weather Station use.

APPENDIX I

Proposal for a Pacific Communications Development Experts Meeting
October-November, 2006
Possible Venue: Melbourne, Australia
Endorsement for the 11th SPREP Regional Meteorological Directors Meeting July 10-14, 2006

Meeting Purpose:
To bring together key communications specialists and donor partners to discuss what the requirements and capabilities are in the region. Work to identify a common architectural solution that could satisfy originator and end users requirements for pacific communications.

Experts will accurately describe the current vulnerabilities in the region. They will determine specifications and prepare a technical overview that would enable resources to be leveraged to improve overall emergency communications in the region. They will identify core and complimentary systems that may be used to integrate systems in the Pacific.

Outcomes:
- Determine whether a collective approach to solving current communications issues with resources available can efficiently negotiate services within the constraints of existing carrier's requirements.
- Devise a common architectural model that assures Pacific Island states receive critical environmental data including emergency warning for tsunami, tropical cyclones, and other severe weather events.
- Develop a funding model that ensures critical data are returned and ingested from observational networks. This will provide essential information to improve current global forecasting models and offer reliable real time data for disaster management.
- Develop a strategy for working with local carriers to ensure emergency communications pathways can be secured for Meteorological Services and Disaster Managers in the Pacific.
- Identify scientific programs that could benefit from improved communications and potentially could add to network sustainability.

Goals:
Mobilize donor expertise to identify solutions, identify requirements of the system, advance a multi-functional approach that is reliable, robust, sustainable, and low-cost which can satisfy the diverse user's community from aviation to tsunami warning to GCOS.

The Expert Group with produce a white paper that will highlight:
- Collection requirements

- Descriptions of current systems with cost accounting, initial costs, infrastructure set up costs, on-going costs
- Description of potential systems to include bandwidth, broadcast capability, band suitability, maintenance requirements, difficulty of installation, power needs, ease of use, scalability, redundancy, interoperability and connectivity, configuration control, interface to existing systems, alert-warning capacity, latency, priority of messaging, and promotion of a shared network architecture.
- Gaps assessment for current systems including political impediments
- Describe technologies available with cost benefit analysis of proposed architectural solutions

Potential Participants:
SPREP, WMO, Finnish Meteorological Institute, Australian Bureau of Meteorology, NOAA, PEACESAT, The Meteorological Service of New Zealand, Ltd., East West Center, METEO France, Japan Meteorological Agency, SOPAC, SPC, IOC

Potential Funding Sources:
WMO Pacific Small Island Developing States Initiative, WMO-US VCP LRIT-EMWIN Upgrade Project, RANET, France VCP, and US GCOS, as well as identify other potential donors.

Appendix II

The end-of-message bit marker was missing in some message files on the EMWIN broadcast on some of the feeds (e.g. Worldspace Asia Star EMWIN broadcast). The problem has not been recently seen in the GOES-West broadcast, but it is showing up on the ftp EMWIN re-broadcast feeds. The problem may still be at the NWS Telecommunications Operations Center (NWSTOC) in Silver Spring, Maryland, USA.

The zero-byte file was noticed when the Pacific Module was in the external alarm section of the software. Colin Schulz is working to fix the software glitch (Local 206.exe). The problem needs to be tackled. The new Pacific module has a remote feature that allows each user to determine which data feed they are getting their broadcast from, e.g. GOES-11 or the Worldspace broadcast.

BOM could get the GOES-11 EMWIN data stream directly at Brisbane, and forward the datastream to Melbourne. Timeframe is in the December, 2006. This ties in well with the Brisbane TCC current WMO tropical cyclone responsibility.